UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 January 2010*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

   4a) Of the above claim(s) *3,9 and 10* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-8 and 11-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date *11/23/09*.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 1-17 are currently pending of which claims 3, 9 and 10 have been

withdrawn from consideration.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9

September 2009 has been entered.

Election/Restrictions

3.   Claims 3, 9 and 10 are withdrawn from further consideration pursuant to 37 CFR

1.142(b) as being drawn to a nonelected species, there being no allowable generic or

linking claim. Election was made **without** traverse in the reply filed on 29 January 2010.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   **Claims 1-2 and 11-16 rejected under 35 U.S.C. 103(a) as being unpatentable**

over US PGPub 2006/0059107 to Elmore et al (hereafter Elmore) in view of US

PGPub 2004/0039964 to Russell et al (hereafter Russell).

        Referring to claim 1, Elmore discloses a method for presenting data and

functions to a user via a presentation layer [presentation layer 103], for use in a

distributed processing system to effect an interface between a business layer [Business

layer 101] and the presentation layer, the method comprising the steps of:

        providing a data set structure which implements an abstract interface for use in

both the business layer and the presentation layer, said data set structure comprising

hierarchical organizational information for arranging data and functions [objects] into at

least one tree structure [hierarchy], the tree structure being configured to store data and

functions of arbitrary type, wherein the data and functions of arbitrary type are arbitrarily

nested in the tree structure [hierarchy] (see [0051]; [0052]; [0094]; [0514]-[0516]; and

Fig 18);

        populating a business layer data set in said business layer [business layer 101]

according to said data set structure, said business layer data set comprising data and

functions available for use in said business layer (see [0036]); and

populating a presentation layer data set in said presentation layer [presentation

layer 103] according to said data set structure from said business layer data set, said

presentation layer data set comprising data and functions available for use by the user

in said presentation layer (see [0038]).

Elmore fails to explicitly disclose the further limitations of instantiating the

business layer data set in said business layer as beans; serializing the beans into XML;

transporting the serialized beans to the presentation layer using Simple Object Access

Protocol (SOAP); and deserializing the serialized beans in the presentation layer.

Russell discloses presenting data and functions to a user via a presentation layer to

effect an interface between a business layer [web service] and the presentation layer [a

browser or client side code], including the further limitations of instantiating the business

layer data set in said business layer as beans (see [0057] and [0061]); serializing the

beans into XML (see [0057] and [0061]); transporting the serialized beans to the

presentation layer using Simple Object Access Protocol (SOAP) (see [0048]); and

deserializing the serialized beans in the presentation layer (see [0048]).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to utilize the concept of processing the JavaBeans of Russell with the layers of

Elmore. One would have been motivated to do so in order to increase system efficiency

since it is well-known that JavaBeans are reusable software programs that are portable

and platform-independent.

Referring to claim 2, the combination of Elmore and Russell (hereafter

Elmore/Russell) discloses a method in accordance with claim 1 wherein providing a

data set structure comprises providing a plurality of items, an item being an abstract

element of arbitrary type, comprising a plurality of data items and a plurality of function

items (Elmore: see Fig 18).

Referring to claim 11, Elmore discloses an apparatus for use in a distributed

data processing system comprising: at least one hardware server for:

providing a data set structure which implements an abstract interface for storing

available data and identification of function calls [objects], said data and function calls

being arranged in at least one tree structure [hierarchy], the tree structure being

navigable without regard to the type of data or function being configured to store data

and functions or arbitrary type, wherein the data and functions of arbitrary type are

arbitrarily nested in the tree structure [hierarchy] (see [0051]; [0052]; [0094]; [0514]-

[0516] and Fig 18);

populating a business layer [business layer 101] configured to store data and

identification of function calls that are available for use by said presentation layer

[presentation layer 103] in accordance with said data set (see [0038]);

populating a presentation layer configured to store data and identification of

function calls that are available for use by a user in accordance with said data set (see

[0036]).

Elmore fails to explicitly disclose the further limitations of instantiating the

business layer data set in said business layer as beans; serializing the beans into XML;

transporting the serialized beans to the presentation layer using Simple Object Access

Protocol (SOAP); and deserializing the serialized beans in the presentation layer.

Russell discloses presenting data and functions to a user via a presentation layer to

effect an interface between a business layer [web service] and the presentation layer [a

browser or client side code], including the further limitations of instantiating the business

layer data set in said business layer as beans (see [0057] and [0061]); serializing the

beans into XML (see [0057] and [0061]); transporting the serialized beans to the

presentation layer using Simple Object Access Protocol (SOAP) (see [0048]); and

deserializing the serialized beans in the presentation layer (see [0048]).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to utilize the concept of processing the JavaBeans of Russell with the layers of

Elmore. One would have been motivated to do so in order to increase system efficiency

since it is well-known that JavaBeans are reusable software programs that are portable

and platform-independent.

Referring to claim 12, Elmore/Russell discloses an apparatus in accordance

with claim 11 wherein said presentation layer is further configured to request data and

identification of function calls from said business layer and to store said data and

identification of function calls in accordance with said data set so that data and

identification of function calls of said business layer can be available to said

presentation layer (Elmore: see [0036]-[0039]).

Referring to claim 13, Elmore/Russell discloses an apparatus in accordance

with claim 12 wherein said at least one hardware server is configured to store data and

identification of function calls that are available for use by said presentation layer in

accordance with said data set wherein said at least one server provides unique data

and identification of function calls to said presentation layer (Elmore: see [0036]-[0039]).

Referring to claim 14, Elmore/Russell discloses an apparatus in accordance

with claim 13 wherein business layer function calls are available to said presentation

layer for execution at said presentation layer via said data set (Elmore: see [0036]-

[0039]).

Referring to claim 15, Elmore/Russell discloses an apparatus in accordance

with claim 13 wherein business layer function calls are available to said presentation

layer for execution at said business layer via said data set (Elmore: see [0036]-[0039]).

Referring to claim 16, Elmore/Russell discloses an apparatus in accordance

with claim 13 wherein business layer function calls are available at said presentation

layer for execution at both said presentation layer and at said business layer via said

data set (Elmore: see [0036]-[0039]).

6.   **Claims 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over**

US PGPub 2006/0059107 to Elmore et al in view of US PGPub 2004/0039964 to

Russell et al as applied to claim 2 above, and further in view of US PGPub

2004/0230559 to Newman et al (hereafter Newman).

Referring to claim 4, while Elmore discloses domain objects (see [0052]),

Elmore fails to explicitly disclose the further limitation of wherein defining a plurality of

data items comprises defining a domain for each of said plurality of data items, the

domain corresponding to the data type of a data item. Newman discloses multi-layer

architecture (see abstract), including the further limitation wherein defining a plurality of

data items comprises defining a domain for each of said plurality of data items, the

domain corresponding to the data type of a data item (see [0122]).

It would have been obvious to one of ordinary skill in the art at the time of the

invention to utilize the concept of a domain disclosed by Newman to define the domain

of Elmore. One would have been motivated to do so in order to clearly define the type

of data a field can process.

Referring to claim 5, the combination of Elmore and Newman (hereafter

Elmore/Newman) discloses a method in accordance with claim 4 wherein providing a

domain for each of said data items comprises providing a domain home for each of said

plurality of data items, the domain home being a means of locating a domain (Newman:

see [0026]).

Referring to claim 6, Elmore/Newman discloses a method in accordance with

claim 4 wherein providing a domain for each of said data items comprises providing a

context for each of said plurality of data items, the context providing means for

distinguishing between otherwise identical domains (Newman: see [0141]).

Referring to claim 7, Elmore/Newman discloses a method in accordance with

claim 4 wherein providing a domain for each of said data items comprises providing a

range domain for each of said plurality of data items, the range domain corresponding

to those domains that have a continuous range of values, bound by an upper and lower

limit [lists of acceptable values] (Newman: see [0024]).

Referring to claim 8, Elmore/Newman discloses a method in accordance with

claim 4 wherein providing a domain for each of said plurality of data items comprises

providing a discrete domain for each of said plurality of data items, the discrete domain

corresponding to those domains that have an explicit list of permitted values [set of

rules at the attribute level] (Newman: see [0025]).

7.   **Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over US**

PGPub 2006/0059107 to Elmore et al in view of US PGPub 2004/0039964 to

Russell et al in view of US PGPub 2004/0230559 to Newman et al.

Referring to claim 17, Elmore discloses a method for presenting data and

functions to a user via a presentation layer [presentation layer 103], for use in a

distributed processing system to effect an interface between a business layer [Business

layer 101] and the presentation layer, the method comprising the steps of:

providing a data set structure which implements an abstract interface for use in

both the business layer and the presentation layer, said data set structure comprising

hierarchical organizational information for arranging data and functions [objects] into at

least one tree structure [hierarchy], the tree structure being configured to store data and

functions of arbitrary type, wherein the data and functions of arbitrary type are arbitrarily

nested in the tree structure [hierarchy] (see [0051]; [0052]; [0094]; [0514]-[0516]; and

Fig 18);

populating a business layer data set in said business layer [business layer 101]

according to said data set structure, said business layer data set comprising data and

functions available for use in said business layer (see [0036]); and

populating a presentation layer data set in said presentation layer [presentation layer 103] according to said data set structure from said business layer data set, said presentation layer data set comprising data and functions available for use by the user in said presentation layer (see [0038]).

Elmore fails to explicitly disclose the further limitation of the tree structure which provides a plurality of data items and a plurality of function items, wherein each of said plurality of data items provides a data value, a range domain, and a context, the range domain having a domain home and wherein each of said plurality of function items provides at least one function.

Newman discloses multi-layer architecture (see abstract), including the further limitation of the tree structure which provides a plurality of data items and a plurality of function items, wherein each of said plurality of data items provides a data value, a range domain, and a context, the range domain having a domain home and wherein each of said plurality of function items provides at least one function (see [0024]; [0025]; [0026]; [0122] and [0141]).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the concept of a domain disclosed by Newman to define the domain of Elmore. One would have been motivated to do so in order to clearly define the type of data a field can process.

Response to Arguments

8.   Applicant's arguments filed in regards to the prior art rejections have been fully

considered but they are not persuasive.

9.   Referring to Applicant's arguments on page 7-9 of the Remarks, the Applicant

states "The hierarchy described in Elmore et al. must be a three-layer structure

containing only and specifically "three types of objects on the hierarchy: root, billing

point, and assigned product," where the root of the hierarchy must be at the top level.

Elmore et al. at paragraph [0514]; and [0519]. Thus, the hierarchy of Elmore et al.

cannot be configured to store data and functions of an arbitrary type, as alleged by the

Examiner, because the data and functions must necessarily correspond tone of the

enumerated objects, i.e., either the root, billing point or assigned product."

The examiner respectfully disagrees. It appears that the Applicant is putting

heavy emphasis on the term "arbitrary type." Furthermore, the examiner fails to find an

explicit definition in the specification for the meaning of the term "arbitrary type." The

data and functions of Elmore can be represented by int, char, etc. Therefore, they can

be of an arbitrary type. Furthermore, as stated in paragraph [0517], different objects

can be associated with the hierarchy. Therefore, when given the broadest reasonable

interpretation, Elmore is considered to disclose the claimed limitation.

10.   The rejections of claims 1-17 are maintained for the reasons stated above.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIMBERLY LOVEL whose telephone number is (571)272-2750. The examiner can normally be reached on 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kimberly Lovel/
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